

## REMARKS/ARGUMENTS

By this paper, Applicant responds to the Office Action of June 19, 2006 and respectfully requests reconsideration of the application.

Of the claims not allowed, claims 5 and 13 are independent.

### I. Summary of Interview – Finality of Office Action Withdrawn

In an interview of July 7, 2006, it was agreed that a declaration stating that Colwell '728, Papworth '473 and Hammond '525 could not be combined or modified within the bounds of § 103(a) to meet the claims would overcome the positions proposed in the Office Action.

Accompanying this paper is a Declaration of Dr. David R. Levine, which should be satisfactory to establish that the positions stated in the Office Action are incorrect.

It was also agreed that the “Final” box on the cover sheet of the Action of 6/19/2006 was checked in error, and that the 6/19/2006 Action is not final.

### II. Claim 5

Claim 5 is compared to certain portions of Colwell '728, Papworth '473 and Hammond '525 in ¶¶ 2-6 of the Office Action. Claim 5 recites as follows:

5. A method comprising the steps of:  
decoding a macroinstruction of a computer, the decoding of the macroinstruction generating a plurality of iterations of:  
a pattern of microinstructions implementing a basic operation,  
wherein **the microinstruction set is architecturally exposed** to programs fetched from an architecturally-visible memory of the computer, and  
a branch instruction predicted not taken.

Claim 5 recites that the “microinstruction set is architecturally exposed.” This language is discussed in ¶¶ 5 and 6 of the Office Action.

**A. The Office Action Mischaracterizes Colwell '728**

MPEP § 2143.01 instructs as follows (quotations and citations omitted):

**V. THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE**

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. ... The court reversed, finding that if the prior art device was turned upside down it would be inoperable for its intended purpose because the gasoline to be filtered would be trapped at the top, the water and heavier oils sought to be separated would flow out of the outlet instead of the purified gasoline, and the screen would become clogged..

...

**VI. THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE**

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.

The accompanying Affidavit of Dr. David R. Levine discusses several technological errors in the Office Action's discussion of claim 5. As Dr. Levine notes, elements asserted in the Office Action to be "architecturally exposed" are not architecturally exposed. The Examiner's understanding of the "principle of operation" of an "architecture" is flawed, and thus the modifications proposed violate that "principle of operation." The modification proposed would render the prior art unsatisfactory for its intended purpose. Claim 5 is patentable.

**B. Colwell '728 Is Unavailable as an Obviousness Reference vis-à-vis Claim 5**

Colwell '728 is not available as a reference against claim 5. Dr. Levine discusses the relationship of microcode and "architectural exposed," and demonstrates that the analysis in the Office Action is incorrect.

As Dr. Levine discusses in more detail, the modification of Colwell '728 proposed in the Office Action – architecturally exposing the i486 microcode – would violate the "principle of operation" of microcode as used in Colwell '728. It would also render Colwell '728 "unsatisfactory for its intended purpose," a general purpose commercial microprocessor with an

architecture that remains consistent from generation to generation, while the microengine can change.

Colwell '728 may not be modified as proposed in the Office Action. Colwell '728 may not be used as a reference, alone or in combination, against claim 5.

Papworth '473 likewise appears to be directed to conventional general-purpose microprocessors such as the Intel X86 (note the references throughout to X86 register names), and likewise may not be applied against claim 5 without violating MPEP § 2143.01.

This identical argument was provided in the Response of March 2006. The June 2006 Office Action expressly declines to “Answer All Material Traversed.” (Action of 6/19/2006 ¶ 22.) Any rejection that may have existed has now lapsed for failure to comply with PTO procedures. Claim 5 is not now rejected, and will not be rejected until the Examiner “answers all material traversed.”

**C. Call for Evidence Pursuant to 37 C.F.R. § 1.104(d)(2)**

A number of statements in the Office Action lack evidentiary support. Pursuant to 37 C.F.R. § 1.104(d)(2), Applicant’s paper of March 2006 requested a reference or affidavit to support the following statement:

- That designers of conventional general-purpose commercial processors, as discussed in Colwell '728, would have considered it desirable to “allow the user or programmer in the Colwell system [or] Papworth system to directly use microinstructions.” Office Action ¶ 17. As is well known to those of ordinary skill, and noted in Exhibit A, this would be disastrous in Colwell’s or Papworth’s general-purpose commercial product.

The Office Action of June 2006 ignores this request. Instead, the Office Action only reiterates the Examiner’s assertion that this statement is true, without so much as an explanation for why it might be true. This is not permitted. An Examiner’s assertion or common sense – even after being explained – is not evidence. 37 C.F.R. § 1.104(d)(2) requires that the Examiner now produce an affidavit or a reference that states this proposition, or else allow the application.

Claim 5 is not now rejected, and will not be until the Examiner provides evidence as required by 37 C.F.R. § 1.104(d)(2).

**D. The Office Action is Silent on Reasonable Expectation of Success**

MPEP §§ 2142, 2143, and 2143.02 requires that an Office Action make a showing of “reasonable expectation of success.” The Office Action is silent on this issue. The Office Action is procedurally too incomplete to raise any multi-reference rejection.

The Office Action makes no showing that, for example, Hammond’s RISC instruction set could be used as a microcode instruction set for implementing Colwell’s 80486, or that Colwell’s 486 microcode could be architecturally exposed for use in Hammond’s system. There are a number of issues that would make either such combination essentially unworkable, however, until an Office Action sets forth a *prima facie* case, the problems are too numerous to discuss.

This identical argument was provided in the Response of March 2006. The June 2006 Office Action expressly declines to “Answer All Material Traversed.” (Action of 6/19/2006 ¶ 22.) Any rejection that may have existed has now lapsed for failure to comply with PTO procedures. Claim 5 is not now rejected, and will not be rejected until the Examiner makes a *prima facie* showing of “reasonable expectation of success” and “answers all material traversed.”

**E. Conclusion: Claim 5 is Not Rejected, and Is Patentable on the Merits**

For all these reasons, the Office Action is procedurally inadequate to raise any rejection of claim 5. Further, claim 5 is patentable on the merits.

**III. Claim 13**

Claim 13 is compared to certain portions of Colwell ’728 and Papworth ’473 in ¶¶ 10-15 of the Office Action. Claim 13 recites as follows:

13. A computer, comprising:
  - an instruction decoder designed to decode macroinstructions into microinstructions for execution in an instruction pipeline on a computer, and for at least one macroinstruction that includes internal iterations, the decoding of **the internal-iteration macroinstruction** generating a plurality of iterations of:
    - a pattern of microinstructions implementing a basic operation of **an internal iteration of the internal-iteration macroinstruction**, and
    - a branch microinstruction predicted not taken, wherein the branch microinstruction is generated **carrying a marker indicating that the branch microinstruction defines a boundary between two successive iterations of the internal-iteration macroinstruction**;

the instruction decoder being further designed to cease generating iterations on detection of a branch mispredict.

**A. Amendments to Claim 13**

The amendments to claim 13 are not narrowing. Rather, they merely redundantly restate interrelationships among the claim elements that were previously present, but not given weight by the examiner. The amendments are not made for a statutory reason relating to patentability.

**B. The Modification of the Prior Art Proposed in the Office Action Would Render the Prior Art Unsatisfactory for its Intended Purpose**

MPEP § 2143.01 instructs as follows:

**2143.01 Suggestion or Motivation To Modify the References  
THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART  
UNSATISFACTORY FOR ITS INTENDED PURPOSE**

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) (... The Board concluded the claims were prima facie obvious, reasoning that it would have been obvious to turn the reference device upside down. The court reversed, finding that if the prior art device was turned upside down it would be inoperable for its intended purpose...).

The Office Action posits that it would be obvious to move Colwell's and Papworth's instruction bits from their designed-for function to another different functions, and to "turn off" some of them. The Office Action does not propose an alternative means by which Colwell's and Papworth's intended functions would be performed once the bits were changed for use for other purposes.

As Dr. Levine discusses in his declaration, the Office Action is wrong in several respects. Modifying Colwell '728 and Papworth '473 as proposed in the Office Action would render the prior art unsatisfactory for its intended purposed. This violates MPEP § 2143.01. Claim 13 is not obvious.

Also, Office Action ¶ 15 misquotes Colwell '728. Colwell col. 10, lines 18-26 does not teach "branch microinstruction carrying a marker indicating that the branch microinstruction defines a boundary (beginning or ending of an iteration...)" Instead, the cited portion of Colwell '728 teaches flow markers that include "'beginning of macro instruction' (BOM) and 'end of